

Appl. No. 09/811,879

Amdt. Dated June 25, 2004

Reply to Office Action of February 25, 2004

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

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Listing of Claims:

1 (currently amended): A radio station for transmitting  
signals, the radio station comprising:

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a modulator modulating a signal to be transmitted;

a power amplifier connected to said modulator for amplifying the modulated signal and producing an output power and a test signal;

a summing device connected to said power amplifier for subtracting the test signal of the power amplifier from a reference signal to generate a control signal;

an antenna for transmitting and receiving the signals, and a connection from said antenna to ground and a switch in said connection for varying a reactance of said antenna;

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~~an impedance with a variable reactance being switched between  
said antenna and said power amplifier;~~

an analog-to-digital converter converting the control signal  
\_\_\_\_\_ to a digital signal; and

a processor using the digital signal to drive said switch  
\_\_\_\_\_ ~~change said variable reactance of said impedance.~~

2 (currently amended): The radio station according to claim  
11 ~~[[1]]~~, wherein said processor calculates an optimum value  
for the variable reactance of said impedance according to the  
digital signal.

3 (original): The radio station according to claim 2, wherein  
said processor includes a table storing the optimum value for  
the variable reactance of said impedance for the digital  
signal and relating the stored optimum value to the  
respective digital signal and a respective output power of  
said power amplifier.

4 (original): The radio station according to claim 3, wherein  
said processor compares the digital signal with stored values

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of the digital signal to determine the reactance of said impedance.

5 (original): The radio station according to claim 2,

including:

a directional coupler transferring a first part of the output power of said power amplifier as the test signal;

a power detector connected to said directional coupler and said summing device and receiving the first part of the output power, said power detector converting the first part of the output power of the power amplifier to a voltage;

said summing device subtracting the voltage from a reference voltage to generate a difference voltage; and

an integrator connected to said summing device, receiving the difference voltage, and integrating the difference voltage to generate the control signal and the power amplifier generating an output power according to the control signal.

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6 (original): The radio station according to claim 1, wherein said summing device subtracts a supply current of said power amplifier from a reference current to generate a difference current; and

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an integrator is connected to said power amplifier for integrating the difference current to generate the control signal; and

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said power amplifier generates the output power according to the control signal.

7 (currently amended): The radio station according to claim 11 [[1]], wherein said power amplifier has a gain, said analog-digital converter converts a test voltage as the control signal of the power amplifier into the digital signal, and said processor adjusts the gain of said power amplifier and the variable reactance of the impedance according to the control signal.

8 (original): The radio station according to claim 5, wherein said impedance includes a plurality of capacitors switched together in parallel connected by switches of a plurality of conductors switched together in parallel and a signal

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processing unit operating said switches according to a signal from said processor.

9 (original): The radio station according to claim 5, wherein

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said impedance includes a capacitor, an inductor, and a signal processing unit for changing a capacitance of said capacitor and an inductance of said inductor by applying signals to said capacitor and said inductor.

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10 (original): The radio station according to claim 5, wherein said impedance includes a plurality of microstrip lines switched together in parallel and a signal processing unit sending signals placed between said microstrip lines according to a signal of said processor.

11 (new): The radio station according to claim 1, including:

an impedance with a variable reactance being switched between said antenna and said power amplifier; and

said processor using the digital signal to change said variable reactance of said impedance.

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12 (new): The radio station according to claim 1, wherein a capacitor is connected in series with said switch in said connection.

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13 (new): The radio station according to claim 1, wherein a capacitor is connected in parallel with said switch in said connection.

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